

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

THE BOTANICAL EXPLORATIONS
OF
THOMAS NUTTALL IN CALIFORNIA.

BY FREDERICK V. COVILLE.

I was puzzled recently, in reading some references to Thomas Nuttall's botanical work in California, at discrepancies in various statements regarding time and place, and this led to a careful examination of the available records regarding his work in that State.

Professor W. H. Brewer,* to whom one naturally turns for information about botanical explorations in California, states that Nuttall's collections there were made "during a part of the year 1835." This there was reason to doubt, and looking further I found that Professor Brewer's authority for the statement was probably Elias Durand's "Biographical notice of the late Thomas Nuttall."†

In this article Durand states, on page 311:

"There [at the Sandwich Islands] he remained a couple of months [after January 5, 1835], visiting the different islands of that happy group and collecting plants and sea-shells; thence, separating from his companion, Mr. [John K.] Townsend, he took passage on board a vessel sailing for the coast of California, where he landed early in the spring, to enjoy new emotions of pleasure. All again was new to him! He remained in California a great part of the spring and summer, actively engaged in making collections, and returned to the Sandwich Islands,

* In Brewer & Watson, *Bot. Cal.*, II, 555, 1880.

† *Proc. Am. Phil. Soc.*, VII, 297-315, 1861.

where he embarked on a Boston vessel to come back to the United States round Cape Horn. Mr. Nuttall arrived in Boston in the beginning of October, 1835.”

This statement of Durand, it now appears, is incorrect in that Nuttall did not separate from Townsend in the Hawaiian Islands, did not sail at this time for California, did not spend the following spring and summer in California, did not embark for Boston from the Hawaiian Islands, and did not reach Boston in 1835.*

Nuttall, in company with Townsend, embarked at Honolulu, Hawaiian Islands, March 26, 1835, on the American brig *May Dacre* and entered the mouth of the Columbia on April 16 following.†

Under date of July 11, 1835, Mr. Townsend states † that Nuttall “has just returned from the Dalles, where he has been spending some weeks.” Under date of October 1, 1835, referring to a Hudson Bay Company’s vessel in which Dr. Gairdner, one of the company’s surgeons, had sailed a few days before from the mouth of the Columbia to the Hawaiian Islands, Townsend says :

“My companion, Mr. Nuttall, was also a passenger in the same vessel. From the [Hawaiian] islands he will probably visit California, and either return to the Columbia by the next ship and take the route across the mountains or double Cape Horn to reach his home.”

From the records thus cited it is evident that Nuttall spent the spring and summer of 1835 on the Columbia River in Oregon and Washington, not in California. It may seem strange to the reader that Nuttall, wishing to go to California from the Columbia, did not make the journey overland, or at least take a vessel down the coast. The fact is that he did not do this simply because he could not. Up to that time there was no land route from the Willamette to the Sacramento across the mountains of the Umpqua and the Rogue rivers and the terrible Siskiyou. As for a coastwise vessel from the Columbia to a California port, that was a rare occurrence. The trade of the

* Since this article was written Dr. John W. Harshberger’s book on “The Botanists of Philadelphia and Their Work” has appeared, with the same errors, doubtless also on the authority of Durand.

† Townsend, John K. Narrative of a journey across the Rocky Mountains, etc., pages 215, 218, 1839.

‡ Op. cit., 224.

Columbia was exclusively a fur trade, and, while the trading vessels went frequently to the Hawaiian Islands to get provisions or sometimes to take on a cargo of sandal-wood for delivery at some eastern Asiatic port, they seldom had occasion to stop in California as they sailed to or from Cape Horn.

Of Nuttall's movements immediately after the 1st of October, 1835, we have only an indirect record. Presumably he reached Honolulu, as he intended, and certainly he must have sailed almost immediately for California, for his collections from the Hawaiian Islands are very scanty and probably, indeed, were all made during his previous visit there.

In the absence of any direct account of Nuttall's movements in California, it seemed best to collate the type localities of the new species of plants described by him as collected in that State, and with this in view a search has been made through the works in which most of these California collections were published, namely, the seventh and eighth volumes of the Transactions of the American Philosophical Society, new series, 1840 to 1843, and in Torrey and Gray's Flora of North America, 1838 to 1843. As a result, it appears that Nuttall's California collections were made at Monterey, Santa Barbara, San Pedro (the port of Los Angeles), and San Diego, in March, April, and May, 1836. He did not visit the California coast north of Monterey.

At San Diego Nuttall secured passage for Boston on the vessel *Alert*, which was carrying a load of hides from California to New England by way of Cape Horn. She left San Diego May 8, 1836. This voyage has an added interest from the fact that the vessel carried also the Massachusetts boy, R. H. Dana, who afterward wrote "Two Years before the Mast." His references to Nuttall are interesting.

"This passenger, the first and only one we had had [on board the trading vessel *Alert*, of Boston], except to go from port to port, on the coast, was no one else than a gentleman whom I had known in my better days, and the last person I should have expected to have seen on the coast of California, Professor [Thomas] N[uttall], of Cambridge, [Massachusetts]. I had left him quietly seated in the chair of Botany and Ornithology, in Harvard University, and the next I saw of him was strolling about San Diego beach, California, in a sailor's pea-jacket, with a wide straw hat, and barefooted, with his trousers rolled up to his knees, picking up stones and shells. He had traveled overland to the Northwest Coast, and come down in a small vessel to Monterey. [Dana evidently knew nothing about Nuttall's trips to the Hawaiian Islands.] There he learned that

there was a ship at the leeward about to sail for Boston, and, taking passage in the *Pilgrim*, which was then at Monterey, he came slowly down, visiting the intermediate ports and examining the trees, plants, earths, birds, &c., and joined us at San Diego shortly before we sailed. The second mate of the *Pilgrim* told me that they had got an old gentleman on board who knew me and came from the college that I had been in. He could not recollect his name, but said he was a 'sort of an oldish man,' with white hair, and spent all his time in the bush and along the beach, picking up flowers and shells and such truck, and had a dozen boxes and barrels full of them. I thought over everybody who would be likely to be there, but could fix upon no one, when, the next day, just as we were about to shove off from the beach, he came down to the boat in the rig I have described, with his shoes in his hand and his pockets full of specimens. I knew him at once, though I should not have been more surprised to have seen the Old South steeple shoot up from the hide-house.

He probably had no less difficulty in recognizing me. As we left home about the same time, we had nothing to tell one another; and, owing to our different situations on board [Dana had shipped as a common sailor, in the forecabin], I saw but little of him on the passage home. Sometimes, when I was at the wheel of a calm night, and the steering required no attention, and the officer of the watch was forward, he would come aft and hold a short yarn with me; but this was against the rules of the ship, as is, in fact, all intercourse between passengers and the crew. I was often amused to see the sailors puzzled to know what to make of him, and to hear their conjectures about him and his business. They were as much puzzled as our old sailmaker was with the captain's instruments in the cabin. He said there were three: the *chronometer*, the *chrenometer*, and *thenometer* (chronometer, barometer, and thermometer). The *Pilgrim's* crew christened Mr. N[uttall] "Old Curious," from his zeal for curiosities, and some of them said that he was crazy, and that his friends let him go about and amuse himself in this way. Why else a rich man (sailors call every man rich who does not work with his hands and wears a long coat and cravat) should leave a Christian country, and come to such a place as California, to pick up shells and stones, they could not understand. One of them, however, an old salt who had seen something more of the world ashore, set all to rights, as he thought: 'Oh, 'vast there! You don't know anything about them craft. I've seen them colleges, and know the ropes. They keep all such things for curiosities, and study 'em, and have men a' purpose to go and get 'em. This old chap knows what he's about. He a'n't the child you take him for. He'll carry all these things to the college, and if they are better than any that they have had before, he'll be head of the college. Then, by-and-by, somebody else will go after some more, and if they beat him, he'll have to go again, or else give up his berth. That's the way they do it. This old covey knows the ropes. He has worked a traverse over 'em, and come 'way out here, where nobody's ever been afore, and where they'll never think of coming.' This explanation satisfied Jack; and as it raised Mr. Nuttall's credit for

capacity, and was near enough to the truth for common purposes, I did not disturb it. With the exception of Mr. Nuttall, we had no one on board but the regular ship's company, and the live stock."*

On July 22, 1836, after a hard and protracted storm off the southern coast of South America, Dana states:

"Even Mr. Nuttall, the passenger, who had kept in his shell for nearly a month, and hardly been seen by anybody, and who we had almost forgotten was on board, came out like a butterfly, and was hopping around as bright as a bird." †

And again:

"In the general joy, Mr. Nuttall said he should like to go ashore upon the island [Staten Island, a little east of Cape Horn] and examine a spot which probably no human being had ever set foot upon; but the captain intimated that he would see the island—specimens and all—in—another place before he would get out a boat or delay the ship one moment for him." ‡

On the 21st of September, 1836, Nuttall arrived in Boston, thus ending his last important American journey.

It is important that the new species based on Nuttall's Californian collections be critically identified, and since to many Californian botanists both the type specimens and the original descriptions are not readily accessible, the following list of species has been prepared. The list, arranged by type localities, includes the species described in Torrey and Gray's *Flora of North America*, 1838 to 1843, and in the seventh and eighth volumes of the *Transactions of the American Philosophical Society*, new series, 1840 to 1843. After the original name is given the current equivalent, if different from the original, and any additional information suggested by the first description, such as the habitat, precise locality, date of collecting or flowering, probable misidentification, or incorrect use of a name. No attempt has been made to identify the species critically. It is hoped that this information will be used by Californian botanists in making collections of these plants at their type localities, so that ample material for careful study may be available in American herbaria.

* [Dana, R. H.] *Two Years before the Mast*, 359-361, 1840.

† *Op. cit.*, 412.

‡ *Op. cit.*, 412-413.

LIST OF PRINCIPAL NEW SPECIES BASED ON NUTTALL'S
CALIFORNIAN COLLECTIONS.*Collected at Monterey.*

BRASSICACEAE.

Dentaria integrifolia Nutt. Plains of Monterey.**Erysimum grandiflorum** Nutt. = *Cheiranthus capitatus* Dougl. On the sand hills of Point Pinos, near Monterey. March.**Lepidium californicum** Nutt. = *Lepidium menziesii* DC. It may be well to note that although *L. californicum* is referred by recent authors to *L. menziesii*, the latter is considered by Dr. Robinson in the Synoptical Flora a plant of the Northwest Coast, a district far removed phytogeographically from Monterey. This suggests the need of further critical examination of the Monterey plant.

VICIACEAE.

Drepanolobus lanatus Nutt. = *Lotus tomentosus* (Hook. & Arn.) Greene. Dry hills in the shade, near Monterey.**Hosackia micranthus** [-tha] Nutt. = *Lotus hamatus* Greene. Near Monterey, March to April.**Hosackia nudiflora** Nutt. = *Lotus nudiflorus* (Nutt.) Greene. Gravelly hills near Monterey, March.**Hosackia strigosa** Nutt. = *Lotus strigosus* (Nutt.) Greene. Dry gravelly hills near Monterey, March.

RHAMNACEAE.

Ceanothus rigidus Nutt. Bushy woods near Monterey, March.**Rhamnus croceus** [-cea] Nutt. Bushy hills and thickets around Monterey.**Rhamnus laurifolius** [ia] Nutt. = *Rhamnus californica* Esch. The type specimens were collected near Monterey and near Santa Barbara also.

CISTACEAE.

Helianthemum scoparium Nutt. Common on dry hills around Monterey.

ONAGRACEAE.

Oenothera ovata Nutt. = *Taraxia ovata* (Nutt.) Small. Common in moist plains in the immediate vicinity of Monterey, March.

ERICACEAE.

Arctostaphylos acuta Nutt. = *Arctostaphylos pumila* Nutt., with which it was originally collected.

Arctostaphylos pumila Nutt. Around Monterey, flowering in March and April.

Xylococcus bicolor Nutt. = *Arctostaphylos bicolor* (Nutt.) Gray. This was the type species of Nuttall's genus *Xylococcus*.

CARDUACEAE.

Artemisia foliosa Nutt. = *Artemisia californica* Less. Common around Monterey.

Stylocline gnaphaloides Nutt. Near Monterey.

Collected at Santa Barbara.

RANUNCULACEAE.

Paeonia californica Nutt. Margins of bushy plains and in the mountain valleys in the vicinity of Santa Barbara, March and April.

Lepidium lasiocarpum Nutt. Near Santa Barbara.

Lepidium nitidum Nutt. Near Santa Barbara.

Streptanthus arcuatus Nutt. = *Arabis arcuata* (Nutt.) Gray. Shelving rocks on high hills near Santa Barbara.

Streptanthus repandus Nutt. This plant has remained unidentified since the publication of Nuttall's original description, and no mention of the plant is made by Dr. Watson in the Synoptical Flora. Nuttall's original description is as follows:

"Hirsute, particularly the lower part; leaves oblong-lanceolate, elongated, clasping, angularly toothed or repand above (flowers white); petals about as long as the calyx. St. Barbara, Upper California. Stem simple, about 2 feet high. Pedicels shorter than the calyx. Sepals and petals linear."

Thysanocarpus crenatus Nutt. This plant and the following are usually treated as belonging to the same species, *crenatus* being made a variety of *laciniatus*. *Crenatus*, however, by the rule of precedence is the proper specific name.

Thysanocarpus laciniatus Nutt. See remarks under the preceding.

RESEDACEAE.

Ellimia ruderalis Nutt. = *Dipetalia subulata* (Del.) Kuntze. This plant was the type of Nuttall's genus *Ellimia*.

SAXIFRAGACEAE.

Lithophragma cymbalaria Torr. & Gr. Shady woods near Santa Barbara.

RIBACEAE.

Ribes villosum Nutt. This is commonly referred to *Ribes divaricatum* Dougl., a species of the Northwest Coast. Nuttall found it common on the plain near the village of Santa Barbara.

ROSACEAE.

Alchemilla cuneifolia Nutt. Referred by most authors to *Alchemilla arvensis* (L.) Scop. Professor Greene, however, in *Flora Franciscana*, page 62, maintains it as distinct from that species, basing his opinion on Nuttall's description. It was originally collected on "dry plains, St. [Santa] Barbara."

Cercocarpus betuloides Nutt. Mountains of Santa Barbara, April.

VICIACEAE.

Amorpha californica Nutt. Near the coast, May.

Hosackia crassifolia Nutt. Dr. Gray referred this plant to *Hosackia scoparia* Nutt. as a new variety, *diffusa*. Professor Greene in publishing his *Lotus glaber* (*Pittonia* 2: 148, 1890) cited *Hosackia scoparia* Nutt. as a synonym, but made no mention of the variety or of Nuttall's *Hosackia crassifolia*. It was collected by Nuttall on dry hillsides near the sea.

Hosackia maritima Nutt. = *Lotus salsuginosus* Greene. Clayey soils and on broken declivities near the sea, March.

Hosackia ochroleuca Nutt. = *Lotus grandiflorus* (Benth.) Greene. Shady mountain woods near Santa Barbara, March to April.

Hosackia prostratus [-ta] Nutt. = *Lotus nuttallianus* Greene. Plains near the sea, Santa Barbara, April, and also at San Diego.

Hosackia scoparia Nutt. = *Lotus glaber* (Vogel) Greene. Dry hillsides near the sea, March to April.

Phaca canescens Nutt. = *Astragalus leucopsis* (Torr. & Gr.) Torr. Borders of woods near the sea.

Phaca tricopoda Nutt. = *Astragalus tricopodus* (Nutt.) Gray. Borders of woods near the sea, April.

Pickeringia montana Nutt. = *Xylothemia montana* (Nutt.) Greene. Summits of the mountains in the vicinity of Santa Barbara. This was the type of Nuttall's genus *Pickeringia*.

Trifolium aciculare Nutt. Plains of Santa Barbara, March to April.

Trifolium polyphyllum Nutt. This is one of the clovers that have been referred by various authors, without sufficiently critical examination, to *Trifolium tridentatum* Lindl. Woods around Santa Barbara, April.

Trifolium spinulosum triste Torr. & Gr. This plant is identified by Professor Greene with *Trifolium variegatum majus* Loja, a reference which, if maintained, requires a change in the varietal name.

ANACARDIACEAE.

Rhus laurina Nutt. On bushy plains near Santa Barbara.

Styphonia integrifolia Nutt. = *Rhus integrifolia* (Nutt.) Benth. & Hook. Common on the margins of cliffs near the sea around Santa Barbara and also at San Diego.

Styphonia serrata Nutt. = *Rhus integrifolia* (Nutt.) Benth. & Hook., with which it was originally collected.

RHAMNACEAE.

Ceanothus divaricatus Nutt. Near the town of Santa Barbara and in the neighboring mountains, April.

Ceanothus hirsutus Nutt. In thickets. See note under *Ceanothus oliganthus*.

Ceanothus macrocarpus Nutt. Mountains of Santa Barbara.

Ceanothus oliganthus Nutt. Bushy woods on the hills of Santa Barbara. As indicated by Professor Greene in *Flora Franciscana*, page 85, the name *oliganthus* has precedence over *hirsutus* and should be used in case the two plants prove to belong to the same species.

Ceanothus spinosus Nutt. Mountains of Santa Barbara.

MALVACEAE.

Malva fasciculata Nutt. = *Malvastrum fasciculatum* (Nutt.) Greene.

Sida californica Nutt. = *Sidalcea californica* (Nutt.) Gray.

Sida delphinifolia Nutt. = *Sidalcea delphinifolia* (Nutt.) Greene.

APIACEAE.

Leptotaenia californica Nutt.

CAMPANULACEAE.

Dysmicodon californicum Nutt. = *Legouzia biflora* (Ruiz & Pavon) Britton. In shady woods near Santa Barbara.

CARDUACEAE.

Artemisia abrotanoides Nutt. = *Artemisia californica* Less. Near Santa Barbara.

Bahia trifida Nutt. = *Eriophyllum confertiflorum trifidum* (Nutt.) Gray.

Burrielia hirsuta Nutt. = *Baeria gracilis* (DC.) Gray.

Burrielia longifolia Nutt. = *Baeria gracilis* (DC.) Gray. Near Santa Barbara.

Burrielia parviflora Nutt. = *Baeria gracilis* (DC.) Gray. With the last.

Chrysopsis sessiliflora Nutt. Flowering in April.

Carduus occidentalis Nutt. Around Santa Barbara.

Dichaeta tenella Nutt. = *Baeria tenella* (Nutt.) Greene. On the margins of ponds and wet places, flowering in April.

Encelia californica Nutt. Common on dry hills near Santa Barbara, flowering in April.

Erigeron foliosum [us] Nutt. Near Santa Barbara, flowering in May.

Erigeron hispidum [us] Nutt. = *Erigeron glaucus* Ker.

Gnaphalium californicum erubescens Nutt. Identified by Dr. Gray in the *Synoptical Flora* as a form of *G. ramosissimum* Nutt., which is a later name. Near Santa Barbara.

Grindelia cuneifolia Nutt.

Hetherotheca grandiflora Nutt. On rocks near the sea, around Santa Barbara.

Isocoma vernonioides Nutt. Common in marshes near the sea, flowering in April and May.

Madaroglossa elegans Nutt. = *Blepharipappus elegans* (Nutt.) Greene.

Madaroglossa hirsuta Nutt. = *Blepharipappus platyglossus* (Fisch. & Mey.) Greene. Also at Monterey.

Madaroglossa angustifolia Nutt. = *Blepharipappus platyglossus* (Fisch. & Mey.) Greene. Collected at Monterey.

Micropus angustifolius Nutt. = *Micropus californicus* Fisch. & Mey.

Psilocarphus globiferus Nutt. Around Santa Barbara.

Psilocarphus tenellus Nutt. Near Santa Barbara, flowering in April.

Senecio coronopus Nutt. = *Senecio californicus* DC. Near Santa Barbara, flowering in May.

Solidago californica Nutt. Near Santa Barbara.

Soliva daucifolia Nutt. = *Soliva sessilis* Ruiz. & Pavon. On the dry grassy downs within the limits of Santa Barbara and in its immediate vicinity.

CICHORIACEAE.

Cryptopleura californica Nutt. = *Agoseris heterophylla* (Nutt.) Greene. Near Santa Barbara. This was the type of Nuttall's genus *Cryptopleura*.

Hieracium argutum Nutt.

Leucoseris saxatilis Nutt. = *Malacothrix saxatilis* (Nutt.) Torr. & Gr. On shelving rocks near the sea, flowering in April.

Leucoseris tenuifolia Nutt. = *Malacothrix tenuifolia* (Nutt.) Gray. On the mountains near Santa Barbara.

Collected at San Pedro.

CARDUACEAE.

Grindelia robusta Nutt. Flowering in April.

Hartmannia glomerata Nutt. = *Deinandra fasciculata* (DC.) Greene. Common, flowering in April.

Collected at San Diego.

PORTULACACEAE.

Calandrinia maritima Nutt. On the seacoast, May.

ALSINACEAE.

Loeflingia squarrosa Nutt. Sandy plains.

Polycarpon depressum Nutt. On bare sand hills, near San Diego.

RANUNCULACEAE.

Clematis lasiantha Nutt. Near the seacoast.

Clematis parviflora Nutt. = *Clematis pauciflora* Nutt. Locality the same as the last. The *rv* in *parviflora* is a typographical error for *uc*, as indicated in the supplement of Torrey and Gray's Flora (p. 657), and the name used by subsequent authors has therefore been *C. pauciflora* Nutt.

BRASSICACEAE.

Streptanthus heterophyllus Nutt. Bushy hills near San Diego.

CRASSULACEAE.

Echeveria lanceolata Nutt. = *Cotyledon lanceolata* (Nutt.) Benth. & Hook.

Echeveria pulverulenta Nutt. = *Cotyledon pulverulenta* (Nutt.) Baker. Flowering in May.

Sedum edule Nutt. = *Cotyledon edulis* (Nutt.) Brewer. Edges of rocks and ravines.

CAPPARIDACEAE.

Isomeris arborea Nutt. This is the type of Nuttall's genus *Isomeris*.

VICIACEAE.

Hosackia cytisoides rubescens Torr. & Gr. *Hosackia cytisoides* Benth. is now referred to *Lotus benthami* Greene, but Nuttall's *Hosackia cytisoides rubescens* seems not to have been critically identified in recent years. Collected near San Diego.

Lathyrus strictus Nutt. = *Lathyrus vestitus* Nutt. Bushy places around San Diego.

Lupinus truncatus Nutt. This species was based on two specimens, one collected by Douglas at San Francisco, the other by Nuttall at San Diego.

RUTACEAE.

Pitavia dumosa Nutt. = *Cneoridium dumosum* (Nutt.) Hook. f.

RHAMNACEAE.

Ceanothus verrucosus Nutt. Low hills near the coast.

CACTACEAE.

Cereus californicus Torr. & Gr. = *Opuntia californica* (Torr. & Gr.). *Cereus californicus* Torr. & Gr. Fl. 1, 555, 1840. *Opuntia serpentina* Engelm. Am. Jour. Sci., ser. 2, 14, 338, 1852. The original description of this plant in Torrey and Gray's Flora is as follows: "Erect and shrubby, with numerous clusters of long and short spines; the branches somewhat

cylindric, repandly grooved, reticulated; flowers small, yellow; fruit dry and spiny. Arid hills and denuded tracts near St. Diego, California, common." Nuttall apparently preserved no specimen of the plant, and Torrey and Gray, having only this meager description as a guide, placed the species doubtfully in the genus *Cereus*. We now know that the two cylindrical-stemmed branching cactuses growing in the vicinity of San Diego are of the genus *Opuntia*, and that the yellow-flowered one is *Opuntia serpentina* Engelm. The earliest specific name of this plant being *californica*, it is here adopted.

Echinocactus viridescens Torr. & Gr. Arid hills near San Diego.

ONAGRACEAE.

Oenothera bistorta Nutt. = *Sphaerostigma bistorta* (Nutt.) Walp.

Oenothera epilobioides Nutt. = *Godetia epilobioides* (Nutt.) Wats.

APIACEAE.

Apiastrum angustifolium Nutt. On this and the following species Nuttall based his genus *Apiastrum*. Both were collected at San Diego in April.

Apiastrum angustifolium tenellum Nutt. This, according to Dr. J. N. Rose, appears to be only a slender form of *A. angustifolium* Nutt., with which it was originally collected.

Apiastrum latifolium Nutt. See *Apiastrum angustifolium*, to which this plant is referred by recent authors.

Deweya arguta Torr. & Gr. = *Velaea arguta* (Torr. & Gr.) Coult. & Rose. This species was the type of Torrey and Gray's genus *Deweya*.

Euryptera lucida Nutt. = *Peucedanum euryptera* Gray. Nuttall's specific name is older than Gray's and should be adopted. This was the type species of Nuttall's genus *Euryptera*, and the type specimen was collected in April in the "woods of St. [San] Diego."

RUBIACEAE.

Galium suffruticosum Nutt. = *Galium nuttallii* Gray.

CAMPANULACEAE.

Nemacladus ramosissimus Nutt. In sandy soil near San Diego. This is the type species of Nuttall's genus *Nemacladus*.

CARDUACEAE.

Aromia tenuifolia Nutt. = *Amblyopappus pusillus* Hook. & Arn. Near the coast.

Chaenactis tenuifolia Nutt. Flowering in May.

Franseria pumila Nutt. = *Ambrosia pumila* (Nutt.) Gray. Near San Diego.

Leptosyne californica Nutt. = *Leptosyne douglasii* DC. Near San Diego, flowering in the beginning of May.

Madaraglossa carnosa Nutt. = *Blepharipappus carnosus* (Nutt.) Greene.

Osmadenia tenella Nutt. = *Calycadenia tenella* (Nutt.) Torr. & Gr. Flowering in May.

Pentachaeta aurea Nutt. On dry plains near the sea, in the vicinity of San Diego, flowering in April.

Ptilomeris anthemoides Nutt. = *Baeria anthemoides* (Nutt.) Gray. Near San Diego.

Ptilomeris aristata Nutt. = *Baeria aristata* (Nutt.). *Ptilomeris aristata* Nutt. Trans. Am. Phil. Soc., new ser., 7: 382, 1841. Dr. Gray in combining *Ptilomeris aristata* and *P. coronaria* adopted the specific name *coronaria*, but by the rule of precedence *aristata* must be used. Near San Diego, flowering in April.

Ptilomeris coronaria Nutt. = *Baeria aristata* (Nutt.) Coville. Near San Diego.

Ptilomeris mutica Nutt. = *Baeria mutica* (Nutt.) Gray. With the preceding.

Tuckermannia maritima Nutt. = *Leptosyne maritima* (Nutt.) Gray. On shelving rocks near the sea.

CICHIORIACEAE.

Malacomeris incanus Nutt. = *Malacothrix incana* (Nutt.) Torr. & Gr. Collected on an island in the bay of San Diego. This species was the type of Nuttall's genus *Malacomeris*.

Rafinesquia californica Nutt. = *Nemoseris californica* (Nutt.) Greene. Near the seacoast in the vicinity of San Diego. This was the type of Nuttall's genus *Rafinesquia*.

Sonchus fallax californicus Nutt. = *Sonchus asper* L. presumably. It is not, however, cited by Gray in the Synoptical Flora. Collected around San Diego.

Sonchus tenuifolius Nutt. = *Sonchus tenerrimus* L. In shady ravines about San Diego, among rocks.

Uropappus grandiflorus Nutt. = *Microseris linearifolia* (DC.) Gray. Collected by Nuttall at Santa Barbara also.

Uropappus heterocarpus Nutt. = *Microseris lindleyi* (DC.) Gray.